

FE-264SS

Diagram No. 1211-3

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey Side Scan Sonar
Field No. R/H-20-16-84
Office No. FE-264SS

LOCALITY

State New York, Rhode Island
General Locality Block Island Sound
Locality Fishers Island to Watch
..... Hill Point
..... 19 84
CHIEF OF PARTY
LCDR R.K. Norris

LIBRARY & ARCHIVES

DATE May 2, 1985

☆U.S. GOV. PRINTING OFFICE: 1980-766-230

Area 1
charts:
13214
13212
13209
12872 & A
12300
13205
12016

For Sign-off
see Record
of Application.

HYDROGRAPHIC TITLE SHEET

FE-264 SS

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form,
filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

R/H 20-16-84

State New York, ~~Connecticut~~ Rhode IslandGeneral locality ~~Southern New England Coast~~ Block Island SoundLocality ~~Northville Corridor, longitude 072° 01' 45" W to Point 4~~Scale 1:20,000

Date of survey

~~28 September, 1984 (JD 272)~~~~29 October, 1984 (JD 303)~~Instructions dated 12 April, 1984

Project No.

OPR-B660-RU/HE-84Vessel NOAA Ships RUDE(9040) and HECK(9140)Chief of party LCDR Robert K. NorrisSurveyed by LCDR R.K. Norris, LT N.G. Millett, LT E.M. Clark, LT(jg) T.G. CallahanSoundings taken by echo sounder, ~~hand lead~~ ~~potex~~ ~~side-scan sonar~~Graphic record scaled by T.G.C., E.M.C., W.J.A.Graphic record checked by N.G.M., E.M.C.Protracted by N/AAutomated plot by N/AVerification by Hydrographic Survey Branch, Evaluation and Analysis Group, A.M.C.Soundings in XXXXX fathoms feet at MLW MLLW corrected for predicted tides.Smooth tides were obtained and computed for all zones.REMARKS: All times recorded in UTC.Aluors checked 7/5/ES SV
SURF checked 7/5/ES SJ

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** = Data removed from the Descriptive Report and filed with the survey records.*

Descriptive Report To Accompany
Hydrographic Survey
~~XX~~FE-264SS(Field No. R/H 20-16-84)
Scale 1:20,000
1984
NOAA Ships RUDE and HECK
LCDR Robert K. Norris, Cmdr.

A. Project Authority

This project was conducted in accordance with Hydrographic Project Instructions OPR-B660-RU/HE-84, Southern New England Coast, dated 12 April, 1984. Change No.1 dated 21 May, 1984 was the only change to these project instructions. The purpose of this project, in order of priority, was to provide wire-drag and side scan sonar clearance of the Northville Industries Corporation oil tanker route, to provide clearance depths over selected wreck sites, and to verify or disprove certain reported submersed wrecks along the south coast of New England.

B. Characteristics and Limits of Survey

This survey covers that area of the one mile wide, oil tanker route from Corridor Point 4 to longitude 071°-01'-45"W. This survey junctions with R/H 20-17-84^(FE-266SS) at Corridor Point 4 to the east and with R/H 20-15-83/84^(FE-263WS) at longitude 072°-01'-45"W to the west. The survey work consisted of an initial side scan sonar investigation with 100-percent coverage of the bottom.

C. Survey Vessels

The NOAA Ships RUDE (Vesno 9040) and HECK (Vesno 9140) were the only vessels assigned to this survey.

D. Hydrographic Sheets

The hydrographic sheets used in this survey were made of mylar and were constructed with the Digital PDP 11/34 computer and the Houston Instruments roll-bed plotter.

The field sheets for this survey were all plotted at a scale of 1:20,000. Boat sheets containing the control station arcs were used aboard each vessel to hand plot the vessels' position while on line. A smooth^{field} sheet was also plotted aboard the RUDE using the computer equipment described above. This smooth^{field} sheet contains a plot of the vessels' positions during side scan sonar operations and was used to hand plot all targets and large contacts. This smooth^{field} sheet also contains a plot of Watch Hill Lighted Whistle Buoy "WH", which was located during this survey. All field records are being sent to the Atlantic Marine Center for verification and smooth plotting.

E. Equipment and Techniques

All side scan sonar coverage was accomplished with the Klein systems provided by AMC. These systems consisted of a Model 521 recorder, a 100 KHz towfish, a K-Wing depressor, and a towcable.

The 100% side scan sonar coverage was accomplished with a main scheme track spacing of 150 meters and the side scan sonar recorder operating at the 200m range scale. The main scheme consisted of thirteen lines running the length of the corridor.

The sonargram record produced by both side scan sonar recorders was found to contain numerous paper pull stretch marks. These stretch marks appeared as diagonal traces from the outer edge of the paper towards the center, as the paper came off the helix drum. The side scan sonar recorders each had the correct number of paper take up rollers, according to the manufacturer, but these diagonal traces still occurred. These diagonal traces on the sonargram may resemble sand waves but they are just a result of the paper take-up system.

A problem developed with the HECK's side scan sonar towcable during the course of this survey which caused dark bands of interference to appear across the outer edges of the sonargrams. An intermittent grounding problem or a faulty cable termination were the probable causes of this interference. This interference occurred intermittently and in some instances was severe enough to obscure the outer edges of the sonargrams. All main scheme lines of side scan sonar run by the HECK when this interference occurred were subsequently split to ensure complete coverage.

Two Raytheon DSF 6000N echo sounders, S/N B051N onboard the RUDE and S/N A116N onboard the HECK, were operated and annotated concurrently during all side scan sonar operations. The echo sounder recordings were reviewed daily to ensure that no large objects located directly under the sonar towfish may have been undetected. Simultaneous operation of the side scan sonar and the DSF 6000N in any High Freq. function caused acoustic interference to occur on the sonargrams. This was due to the fact that the High Frequency transducer operates at the same frequency as the side scan sonar towfish. Therefore, the echo sounders were operated in just the Low Freq. position during all side scan sonar operations. Optimum results were also obtained when the gain controls of the DSF 6000N were manually tuned.

Although it is not anticipated that these sounding records will be used for charting purposes, the settlement and squat data for the Rude and Heck, obtained in Norfolk Harbor on 25 January 1983, is included in this report. No velocity corrections or settlement and squat determinations were actually conducted within or during this project. Draft of the transducers on the RUDE and Heck are 7.0 feet. *The hydrography is of reconnaissance value only.*

Del Norte rates obtained on fixes were recorded with Eaton Model 7000+ serial printers during this survey. These printers worked fairly well considering the fact that they were not designed to be operated in a marine environment. The printers would often print out a line of meaningless characters or rates from the previous fix before the current fix was recorded. The

Printer records were annotated such that these meaningless characters and extraneous rates were lined out leaving the correct fix rates clearly displayed.

F. Control Stations

Two electronic control stations were used for this survey. Station 01 was TOWER(1972) at latitude 41°-15'-20.64725N, longitude 072°-00'-35.15302W with an elevation of 49.0m. Station 02 was WATCH HILL LIGHTHOUSE(1873), located at latitude 41°-18'-13.646N, longitude 071°-51'-32.552W with an elevation of 18.6m. All stations were located by NGS and are of Third-order, Class I control accuracy or better. The station positions are based on the North American Datum of 1927.

G. Calibration and Position Control

Vessel Positioning for all work was accomplished with the Del Norte 520 series electronic positioning equipment operated at a frequency of 9400 MHz in the range-range mode. The Del Norte DMU/Master pair used aboard the RUDE during this survey was S/N 135/2889. The DMU/Master pair used aboard the HECK was S/N 142/3033. The remote unit installed at Station 01 was code 82, S/N 2897. Remote unit 84, S/N 3003, was installed at Station 02.

Two baseline calibrations were performed during this survey. All baseline calibrations were conducted in the immediate work area and entirely over water in accordance with AMC OPORDER 79. Baseline calibration distances were determined by the HP 3800A electronic distance measuring instrument, S/N 0987A00157. The following is a list of the baseline calibrations, as measured by the HP 3800A:

28 September, 1984 (JD 272)	PIER 2, Newport Naval Pier to Gould Island, SE Pier	1933.0m
29 October, 1984 (JD 303)	Pier 4S, NUSC, New London, CT to S. Groton Jetty	2312.0m

Daily calibrations were conducted in the vicinity of the south shore of Fishers Island using the three point sextant fix method. The daily calibration correctors were then computed using the HP 9815A computer and the Hydro Calibration Package Program. The Electronic Corrector Abstracts, the baseline calibration data, and the daily calibration sheets are all contained in Appendix A.

The Master unit, S/N 3033, failed after completion of survey work on 20-16-84, while working on subsequent field sheets. It was therefore not possible to conduct a baseline calibration of DMU/Master pair S/N 142/3033 during the closing calibration on 29 October, 1984(JD 303). All daily calibrations performed with this DMU/Master pair resulted in calibration correctors that were within accuracy tolerances for a survey of this scale. Since a closing baseline calibration was not able to be performed with DMU/Master pair, S/N 142/3033, it is

recommended that the raw position data collected with this DMU/Master pair, with no correctors applied, be used for final smooth plotting during verification. ✓

All daily calibration correctors obtained with the DMU/Master pair, S/N 135/2889 were within accuracy tolerances for a survey of this scale. Therefore the baseline calibration data should be applied to the raw position data obtained by this DMU/Master during final processing. See Appendix A for baseline calibration data. ✓

H. Dates of Survey

This survey was begun on 28 September, 1984 (JD 272) and was completed on 29 October, 1984 (JD 303). - *Actual survey data was collected from 3 October through 15 October, 1984.* ✓

I. Reduction and Processing of Data

All side scan sonar data was initially recorded in NOAA Form 77-44, Sounding Volumes. All header data, position numbers, time, and position control data were recorded in the appropriate columns in the volumes. The remarks column was used to record all line information, vessel rpm's, length of tow cable (measured from waterline to towfish) vessel headings, and any other unusual or noteworthy remarks. The towfish layback was computed by adding the amount of tow cable from the waterline to the towfish plus the stern to antenna distance. ✓

The computation of the towfish layback is not an exact method of determining the layback but is an adequate method in order to plot contacts. The towfish is not directly astern of the towing vessel the entire length of the amount of tow cable being deployed due to the depressing action of the K-Wins on the towfish. This small amount of error is insignificant when plotting at a scale of 1:20,000. ^{Concur} There was good agreement between the plots of the same contact as observed on adjacent lines run in opposite directions. ✓

Vessel position data from the side scan sonar work was entered in the Digital PDP 11/34 computer with a modified version of the R/H Double Precision Wire-Dras program. Rates for just one vessel were entered in this program and a single vessel position plot was generated with the Houston Instruments roll-bed plotter. All main scheme and split lines of side scan sonar for this survey were plotted in this manner. Reconnaissance side scan sonar lines were only hand plotted on the boat sheets. ✓

Side scan sonar coverage was computed and listed on the Side Scan Sonar Coverage Abstract. The required 100-percent side scan coverage was obtained throughout the entire corridor. ✓

The sonargrams from the side scan sonar work were examined while on line and then again at the end of the day. All notable contacts were flagged during each examination. These flagged contacts were then logged in the Side Scan Sonar Target Abstract for the field sheet. The Target Abstract was then completed and the contacts were plotted on the smooth field sheet containing the vessel position plots. The towfish layback was computed by adding the amount of tow cable out plus the stern to ✓

antenna distance(17.7m). The layback and range to target values from this abstract were the distances used to plot the contact positions. All values of towable length on the sonargrams and in the sounding volumes refer only to the amount of cable from waterline to towfish. The Side Scan Sonar Target Lists were then compiled from the Target Abstracts and from the contact plots. The Del Norte rates of the contact positions were determined using a grid and arc overlay. These rates were then used to determine the latitude and longitude of the contact with the HP 9815A computer and the Geodetic Package program.

J. Junctions and Splits

The side scan sonar coverage junctioned with survey R/H 20-15-83 at longitude 072°01'45W to the west and with contemporary survey R/H 20-17-84 at Corridor Point 4 to the east.

The interference on certain sonargrams, described in Section E of this report, caused a reduction in the effective range of the side scan sonar. Split lines were run between all main scheme side scan sonar lines that contained this interference.

There are no gaps in coverage contained within this survey. - Concur

K. Comparison with Prior Surveys - See sections 4. & 6. of the Evaluation Report.

The survey area is covered by prior surveys H-6443(1939), H-8709(1962), H-8926(1966-68). These prior surveys were used to determine the Reduced Depth over the contacts, documented in the Side Scan Sonar Target List. The height of the target was subtracted from the prior survey depth at the target location to determine the least depth over the target.

None of the contacts observed by this survey had heights that were greater than 10% of the bottom depth and therefore none of the contacts were significant hydrographic features. - Concur except see

The shoalest Reduced Depth was 60.10 feet, observed over target #5. This target is located in 65.0 feet of water, according to the prior survey. All other Reduced Depths were 61 feet or deeper. There were no targets observed in 70 feet of water or deeper that protruded off the bottom and extended higher than the required corridor depth of 70 feet. - Concur - see section 6. of the Evaluation Report.

A 42 foot sounding from H-4043(1918)WD, charted at latitude 41°14'50N, longitude 072°00'21W, was brought forward and also appears on H-8926. There is no indication of any large obstruction or pinnacle at this position on the sonargrams that cover this area. Depths from survey H-8926, surrounding this 42 foot sounding, are all 71 to 76 feet. The source of this sounding should be checked and if this sounding is suspect, additional hydrography may be required in the area of this charted sounding. - Concur, but would require wire drag to disprove this sounding and it should remain as charted until it is disproved.

L. Comparison with the Charts

The charts that cover the survey area and that were used for all chart comparisons were NOS charts 13205, 27th Ed., Apr. 23/83; 13212, 29th Ed., Jan. 1/83; 13214, 21st Ed., Aug. 25/79.

There was good agreement between the charted depths and the depths observed during side scan sonar operations. ✓

The 42 foot soundings at latitude 41°-14'-50"N, longitude 072°-00'-21"W discussed above, appears on charts 13205, 13212, 13214. ✓

A 41 foot soundings at latitude 41°-15'-56"N, longitude 071°-00'-22"W, and a 43 foot soundings at latitude 41°-15'-56"N, longitude 071°-00'-18"W appear on chart 13214 but not on charts 13205 and 13212. These 41 and 43 foot soundings do not originate from any of the prior surveys covering this area. *supposed to be 14'?* ✓

A 57 foot soundings appears on chart 13212 at the position of the 43 foot soundings on chart 13214. This 57 foot soundings originates from prior survey H-8926. - Concur ✓

There is no indication of these 41 and 43 foot soundings on chart 13205. There are no soundings at the positions of the 41 and the 43 foot soundings but these soundings would chart on the 60 foot curve that appears on chart 13205. - Concur ✓

The origin of these 41 and 43 foot soundings should be checked. *The source of these two soundings was not determined during evaluation.* The reasons for the discrepancies between the different charts covering the common area where these two soundings are charted should also be investigated. - Concur ✓

The "Subm Tripod PA", charted at latitude 41°-14'-52"N, longitude 071°-57'-20"W could not be positively identified by this survey. A tripod, similar to this tripod lost by the Navy, was shown to the ship's officers at the Naval Underwater Systems Center, New London, CT by Chief W. Frazier, USN. This type of tripod is approximately 7 feet high with the legs spaced 5 feet apart at the base. Side scan sonar contacts 3,13 and 9,10,26,27 were suspicious and any of these contacts may be this tripod. These contacts were investigated with reconnaissance side scan sonar lines but could not be positively identified as the lost tripod. These contacts were located in 187 and 132 feet of water respectively, and did not constitute a hazard to navigation nor warrant any further investigation. Due to the excessive depths and the strong currents found in the areas of these contacts, a diver investigation to positively identify these contacts, within NOAA Diving Regulations and with the equipment aboard the RUDE & HECK, was not possible. *Based upon the size of the tripod and the depths in the area the tripod poses no threat to navigation.* ✓

The NUSC Diving Detachment, Newport, RI, does have the equipment required to conduct a diver search for this tripod, under the conditions present. Master Chief W. Kitchen, USN with the NUSC Diving Detachment, Newport, RI has conducted diving operations at the charted position of this tripod but has failed to locate it. A diver search of the positions of contacts 3,13 and 9,10,26,27 by the NUSC Diving Detachment may recover this lost tripod. ✓

One floating aid to navigation is contained within the limits of this field sheet. This buoy, Watch Hill Lighted Whistle Buoy "WH", was positioned with Del Norte by the RUDE on JD 285, fix #283 and by the HECK on JD 286, fix #749. These two positions agree closely and confirm that the buoy is accurately charted. The slight differences between the positions obtained by the RUDE and HECK are probably attributable to swings of the buoy on the scope of its anchor chain. - Concur ✓

The Lighted Instrumentation Buoy, Light List #901.35, is

no longer on station and should be deleted from the new editions of the U.S. Light List and NOS charts 13205 and 13214. Communication with personnel at NUSC, New London, CT confirms that this buoy is no longer on station and that the buoy will not be maintained in the future. A letter recommending the deletion of this buoy was sent by the Command to the Commander, Third Coast Guard District (oan). A copy of this letter is included in Appendix H. - Concur

There is no shoreline within the limits of the corridor covered by R/H 20-16-84. Shoreline from NOS chart 13214 is drawn on the smooth sheet, for orientation purposes only. All presently charted landmarks in the vicinity of this section of the corridor were visually verified from offshore and are suitable as charted. No additional landmarks or aids to navigation were noted in the area as suitable for charting. - Concur

M. Adequacy of Survey

This survey is considered complete and adequate for charting. - See the Evaluation Report.

N. Incomplete Items

There are no incomplete items contained within this survey.

O. Hangs and Groundings

There was no wire-drag conducted during this survey and therefore there were no hangs or groundings encountered during this survey.

P. Currents and Winds

Tidal currents were closely monitored during the course of this survey. Side scan sonar operations were also conducted with the predominate current flow to maintain proper towfish depth and vessel speed. Comparisons were made with the Tidal Current Tables, 1984, Atlantic Coast of North America for station 2346 and the Race. In general, the times and strengths of maximum flood and ebb and times of slack water at the surface agreed with the predicted times and strengths under normal conditions.

Q. Personnel

The officers participating in this survey were LCDR Robert K. Norris, LT Neal G. Millett, LT Edward M. Clark, and LT(Js) Thomas G. Callahan.

R. General Notes

The Instrumentation Buoy, Light List #901.35, is no longer on station and should be removed from new editions of the U.S. Light List and NOS charts 13205 and 13214. A letter recommending the deletion of this buoy has been sent by the

Command to the Commander, Third Coast Guard District (can). A copy of this letter is included in Appendix H.

The origin of the 41 and 43 foot soundings discussed in Section L should be checked. The reasons for the discrepancies in the charting of these two soundings on the different charts covering this area should also be investigated. *- Concur*

Additional hydrography may be warranted in the vicinity of the 42 foot sounding charted at latitude 41°-14'-50"N, longitude 072°-00'-21"W. There was no indication of any large obstruction or Pinnacle at this position during side scan sonar survey of this area. This sounding originated from H-4043(1918)WD but depths from survey H-8926(1966-68), surrounding this 42 foot sounding, are all 71 to 76 feet. *- See the Evaluation Report.*

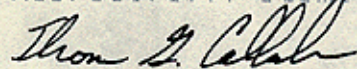
The "Subm Tripod PA", charted at latitude 41°-14'-52"N, longitude 071°-57'-20"W could not be positively identified by this survey. A tripod, similar to this tripod lost by the Navy, was shown to the ship's officers at the Naval Underwater Systems Center, New London, CT, by Chief W. Frazier, USN. This type of tripod is approximately 7 feet high with the legs spaced 5 feet apart at the base. Side scan sonar contacts 3,13 and 9,10,26,27 were suspicious and any of these contacts may be this tripod. These contacts were investigated with reconnaissance side scan sonar lines but could not be positively identified as the lost tripod. These contacts were located in 187 and 132 feet of water respectively, and did not constitute a hazard to navigation nor warrant any further investigation. Due to the excessive depths and the strong currents found in the areas of these contacts, a diver investigation to positively identify these contacts, within NOAA Diving Regulations and with the equipment aboard the RUDE & HECK, was not possible. *- See the note on this in section L of this report.*

The NUSC Diving Detachment, Newport, RI, does have the equipment required to conduct a diver search for this tripod under the conditions present in the area. Master Chief W. Kitchen, USN with the NUSC Diving Detachment has conducted diving operations at the charted position of this tripod in an attempt to recover it. These diving operations, at the charted position of the tripod, have failed to locate the tripod. A diver search of the positions of contacts 3,13 and 9,10,26,27 by the NUSC Diving Detachment may recover this lost tripod.

Position #'s 157 - 266 were not used during this survey.

The format of this report is a composite of the Descriptive Report formats contained in the Wire Drag and Hydrographic Manuals. This format is the optimum composite of the pertinent sections of the two reports and is more applicable to the surveys currently being conducted by the RUDE and HECK. *- Concur*

Respectfully submitted,



Thomas G. Callahan, LT(jg), NOAA

S. Approval Sheet

Field operations contributing to the accomplishment of this survey were conducted under my supervision with frequent personal checks of progress and adequacy. This report and field sheet has been closely reviewed and is considered complete and adequate for charting.

Robert K. Norris

Robert K. Norris
LCDR, NOAA
Commanding Officer
NOAA Ships RUDE & HECK

C. HORIZONTAL CONTROL

No new stations were established for this survey. See Appendix D, Signal List, for a complete listing of all stations used on this survey.

See the Evaluation Report - section 4.

D. SIGNAL LIST

PROJECT:

OPR-B660 - RV/HE-84

R/H 20-16-84

SIGNALS/STATIONS

TOWER, (1972)

ID NBR 1
 LAT 41°15'20.647"
 LON 72°00'35.153"
 ELEV'N 49.00 M

FILE 1

WATCH HILL ^{LIGHTHOUSE,}
LTHSE (1873)

ID NBR 2
 LAT 41°18'13.646"
 LON 71°51'32.552"
 ELEV'N 18.60 M

FILE 2

BARTLETT REEF ^{LIGHT,}
ET. (1954)

ID NBR 3
 LAT 41°16'27.924"
 LON 72°00'15.740"

FILE 3

NEW LONDON HARBOR

LIGHTHOUSE, (1835)

ID NBR 4
 LAT 41°18'59.489"
 LON 72°05'24.854"

FILE 4

NEW LONDON LEDGE

LIGHTHOUSE, (1932)

ID NBR 5
 LAT 41°18'20.798"
 LON 72°04'40.516"

FILE 5

~~SEAFLOWER REEF LT.~~
(1954)

~~ID NBR NOT USED 6
 LAT 41°17'45.245"
 LON 72°02'31.462"~~

~~FILE 6~~~~NORTH DUMPLING GAGE~~
(1874)

~~ID NBR NOT USED 7
 LAT 41°15'15.932"
 LON 72°01'11.084"~~

~~FILE 7~~LATIMER REEF ^{LIGHTHOUSE,}
LTHSE

(1886)

ID NBR 8
 LAT 41°18'15.871"
 LON 71°56'01.683"

FILE 8

RACE ROCK ^{LIGHTHOUSE,}
LTHSE (1882)

ID NBR 9
 LAT 41°14'36.158"
 LON 72°02'51.414"

FILE 9

LITTLE GULL ISLAND
LTHSE, (1874)

ID NBR 10
 LAT 41°12'22.673"
 LON 72°06'26.278"

FILE 10

FISHERS IS. CG CUPOLA

FISHERS ISLAND, COAST GUARD CUPOLA, 1934

(1934)

ID NBR 11
 LAT 41°16'58.787"
 LON 71°56'41.048"

FILE 11

See section
4. of the
Evaluation
Report

E. PNEUMO DEPTH GAUGE REPORT

NEGATIVE REPORT



F. DIVING REPORT

NEGATIVE REPORT

H. LOCAL NOTICE TO MARINERS REPORT



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA SHIPS RUDE & HECK
439 West York St.
Norfolk, VA 23510

November 27, 1984

To: Commander, Third Coast Guard District (Oan)

From: *Robert K. Norris*
LCDR Robert K. Norris
Commanding Officer

Subj: Lighted Instrumentation Buoy, Light List #901.35

The Lighted Instrumentation Buoy, Light List #901.35, was found to be no longer on station by the NOAA Ships RUDE and HECK while conducting survey operations in the vicinity of Fishers Island, NY. Communication with personnel at NUSC, New London, CT, confirms that this buoy is no longer on station and that the buoy will not be maintained in the future. It is recommended that the next Notice to Mariners call for the deletion of the Lighted Instrumentation Buoy in the U.S. Light List and on NOS charts 13205 and 13214. This buoy should also be deleted in the new editions of the U.S. Light List and NOS charts 13205 and 13214.



J. DANGERS TO NAVIGATION REPORT

NEGATIVE REPORT

L. SIDE SCAN SONAR COVERAGE ABSTRACT -
TARGET ABSTRACT - TARGET LIST

Sonar Coverage Abstract

OPR-B660-RUIHE-84
R/H 20-16-84

Item No.

Search Track Number	Range Scale (m)	Minimum Towfish Height (m)	Minimum Effective Scanning Range (m)	Search Track Number	Range Scale (m)	Minimum Towfish Height (m)	Minimum Effective Scanning Range (m)	Maximum Track Spacing (m)	Coverage Analysis
001-003	200 m	9 m	89 m	065-062	200 m	20 m	198 m	250 m	100 %
003-026	200	18	178	062-027	200	20	198	310	100 %
069-050	200	13	129	070-087	200	15	148	235	100 %
053-027	200	20	198	088-107	200	22	200	200	100 %
070-087	200	15	148	108-123	200	12	119	210	100 %
088-107	200	22	200	121-138	200	24	200	260	200 %
108-125	200	12	119	282-267	200	18	178	245	100 %
124-138	200	24	200	156-139	200	23	200	210	100 %
A-282-267	200	18	178	718-734	200	21	200	225	100 %
156-152	200	23	200	733-736	200	19	188	140	200 %
154-139	200	23	200	748-737	200	24	200	190	200 %
718-729	200	21	208	681-697	200	27	200	320	100 %
728-736	200	19	188	717-708	200	32	200	175	200 %
748-737	200	24	200	710-698	200	23	200	175	200 %
681-697	200	27	200	654-664	200	30	200	205	100 %
717-708	200	32	200	663-680	200	25	200	180	200 %
654-680	200	25	200	653-622	200	24	200	190	200 %
653-628	200	24	200	599-621	200	24	120 *	180	100 %

* Reduced Scanning Range due to interference.

Sonar Coverage Abstract

OPR-B660-RUIHE-84
R/H 20-16-84

Item No.

Search Track Number	Range Scale (m)	Minimum Towfish Height (m)	Minimum Effective Scanning Range (m)	Search Track Number	Range Scale (m)	Minimum Towfish Height (m)	Minimum Effective Scanning Range (m)	Maximum Track Spacing (m)	Coverage Analysis
629-622	200 m	24 m	200 m	570-559	200 m	21 m	150 m *	180 m	100 %
599-621	200	24	120 *	314-291	200	25	200	125	100 %
570-559	200 m	21	150 *	292-284	200	23	200	125	200 %
314-284	200	23	200	530-558	200	22 m	120	125	100 %
530-558	200	22	120 *	810-779	200	20	198	110	200 %
810-779	200	20	198	500-529	200	21	135 *	120	200 %
500-529	200	21	135 *	778-750	200	21	200	125	200 %
778-750	200	21	200	571-598	200	19 m	90 *	140	100 %
A-58									
811-821	200	36	200.	This line covered blank area #776-778 where helix cracked while on line.					
65-66	200	16	158	Edge of Corridor	—	—	—	150	100 %
66-67	200	15	148	Edge of Corridor	—	—	—	148	100 %
67-68	200	15	148	Edge of Corridor	—	—	—	140	100 %
68-69	200	13	129	Edge of Corridor	—	—	—	120	100 %

* Reduced Scanning Range due to interference.

SIDE SCAN TARGET ABSTRACT

OPR- B660-RV/HE-84ITEM # N/AR/H 20-16-84

SHIP _____

TARGET NUMBER	J.D. TIME UCT	FIX #	COMPUTED RATES	TOW SPEED	LENGTH OF TOW (M)	REDUCED DEPTH (FT)	PRIOR SURVEY DEPTH (FT)	HEIGHT OF FISH R1 (M)	R2 (M)	R3 (M)	R4 (M)	HEIGHT OF TARGET (M/FT)	RANGE OF TARGET (M)	WIDTH OF TARGET (M/FT)	TOWFISH LAYBACK (M)
1	277	54-55	R ₁ 4840 R ₂ 10075	4.5 kts	15.2m	143.18	148	35.0	136.0	137.0	143.0	1.47m 4.82	131.8m	1.03m 3.38	32.9m
2	277	54-55	R ₁ 4780 R ₂ 10075		15.2	143.24	150	36.5	66.0	67.0	71.0	2.06 6.76	56.30	1.17 3.84	32.9
3	277	55-56	R ₁ 4495 R ₂ 10400		15.2	177.78	187	43.0	163.0	164.5	176.0	2.81 9.22	157.97	1.55 5.08	32.9
4	277	56-67	R ₁ 1160 R ₂ 14250		15.2	81.48 ⁷³	86 ⁷⁵ ₈₆	16.5	59.5	60.5	66.0	1.38 4.52	57.55	1.03 3.38	32.9
5	277	68-69	R ₁ 1590 R ₂ 15200		15.2	60.18 ⁵⁵	650	12.0	49.0	50.0	52.0	1.47 4.82	47.86	1.02 3.34	32.9
6	277	83-84	R ₁ 4705 R ₂ 10175		15.2	148.42	154	42.0	94.0	95.0	99.0	1.70 5.58	84.92	1.11 3.64	32.9
7	277	83-84	R ₁ 4975 R ₂ 9595		15.2	138.16	148	37.5	45.0	46.0	50.0	3.00 9.84	28.89	1.53 5.02	32.9
8	277	83-84	R ₁ 5085 R ₂ 9975		15.2	161.52	167	40.0	67.0	69.0	72.0	1.67 5.48	54.95	2.42 7.94	32.9
9	277	512-513	R ₁ 5610 R ₂ 10570		15.2	132	132	28.5	91.0	95.5	*	-	86.96	4.70 15.42	32.9
10	277	541-542	R ₁ 5610 R ₂ 10570		18.3	128.10	132	28.5	43.5	46.0	48.0	1.19 3.90	33.86	3.16 10.36	36.0
11	278	110-111	R ₁ 1430 R ₂ 14240		15.2	90.74	95	18.0	50.5	51.5	55.5	1.30 4.26	47.66	1.06 3.48	32.9
12	278	110-111	R ₁ 1350 R ₂ 14175		15.2	89.49	95	18.0	33.0	34.0	37.5	1.68 5.51	28.68	1.15 3.77	32.9
13	278	119-120	R ₁ 4495 R ₂ 10400		15.2	173.26	187	44.0	84.0	85.5	94.5	4.19 13.74	73.97	1.70 5.58	32.9
14	278	119-120	R ₁ 4875 R ₂ 10255		15.2	149.11	160	35.0	122.0	124.0	137.0	3.32 10.89	117.82	2.07 6.79	32.9
15	278	120-121	R ₁ 4975 R ₂ 9595	4.5 kts	15.2	141.90	148	34.5	103.0	105.0	111.0	1.86 6.10	97.69	2.11 6.92	32.9

* No shadow observed. No height computation.

A-59

SIDE SCAN TARGET ABSTRACT

OPR- B660-RU/HE-84ITEM # N/AR/H 20-16-84

SHIP _____

PRIOR

TARGET NUMBER	J.D. TIME UCT	FIX #	COMPUTED RATES	TOW SPEED	LENGTH OF TOW (M)	REDUCED DEPTH (FT)	SURVEY DEPTH (FT)	HEIGHT OF FISH R1 (M)	R2 (M)	R3 (M)	R4 (M)	HEIGHT OF TARGET (M/FT)	RANGE OF TARGET (M)	WIDTH OF TARGET (M/FT)	TOWFISH LAYBACK (M)
16	283	664-665	R ₁ 5130 R ₂ 10450	4-5 kts	18.3 m	177.10 ft	181 ft	43.5	69.0	71.0	73.0	1.19 m / 3.90 ft	54.51 m	2.51 m / 8.23 ft	36.0 m
17	284	686-687	R ₁ 1900 R ₂ 14150		18.3	145.13	151	26.0	53.0	54.0	58.0	1.79 / 5.87	47.15	1.12 / 3.67	36.0
18	284	686-697	R ₁ 4690 R ₂ 10600		18.3	183.56	193	49.0	159.0	160.0	170.0	2.88 / 9.44	152.16	1.04 / 3.41	36.0
19	285	715-716	R ₁ 5145 R ₂ 10400		18.3	176.08	181	42.0	80.0	81.0	84.0	1.50 / 4.92	68.99	1.16 / 3.80	36.0
20	285	720-721	R ₁ 1580 R ₂ 14270		18.3	111.57	118	30.0	77.0	78.5	84.0	1.96 / 6.43	71.71	1.61 / 5.28	36.0
21	285	728-729	R ₁ 4590 R ₂ 10625		18.3	188.21	193	50.0	98.0	100.0	103.0	1.46 / 4.79	85.13	2.29 / 7.51	36.0
22	284	271-272	R ₁ 5010 R ₂ 10125		15.2	140.03	146	35.0	72.0	73.0	77.0	1.82 / 5.97	63.90	1.12 / 3.67	32.9
23	284	271-272	R ₁ 4995 R ₂ 10175		15.2	136.56	146	35.0	38.0	39.0	42.5	2.88 / 9.44	20.31	1.81 / 5.94	32.9
24	284	272-273	R ₁ 4700 R ₂ 10495		15.2	172.84	181	47.5	80.5	81.5	86.0	2.49 / 8.16	66.74	1.20 / 3.94	32.9
25	289	289-290	R ₁ 11610 R ₂ 7000		15.2	113.02	122	27.0	57.0	62.0	69.0	2.74 / 8.98	51.58	5.48 / 17.98	32.9
26	289	302-303	R ₁ 5610 R ₂ 10570		15.2	128.36	132	30.0	76.0	78.0	81.0	1.11 / 3.64	70.30	2.16 / 7.08	32.9
27	289	798-799	R ₁ 5610 R ₂ 10570		18.3	132	132	30.0	69.0	74.5	*	- / -	62.66	6.01 / 19.72	36.0
28	289	811-812	R ₁ 3060 R ₂ 16100	4-5 kts	18.3	173.26	183	51.0	80.0	81.0	86.0	2.97 / 9.74	63.97	1.25 / 4.10	36.0

* No shadow observed. No height computation

A-60

OPR- B660-RUIHE-84SHEET R/H 20-16-84

SIDE SCAN SONAR TARGET LIST

TARGET NUMBER	PRIOR				POSITION	FURTHER INVESTIGATION			REMARKS
	SURVEY DEPTH (FT)	REDUCED DEPTH (FT)	HEIGHT OF TARGET (FT)	WIDTH OF TARGET (FT)		TYPE	DATE	RESULTS	
1	148	143.18 ft	4.82 ft	3.38 ft	L 41-14-50.23 λ 071-57-11.22	None			Contact height not 10% of depth
2	150	143.24	6.76	3.84	L 41-14-52.24 λ 071-57-13.33	None			Contact height not 10% of depth
3, 13	187	173.26	13.74	5.58	L 41-14-48.27 λ 071-57-26.92	Recon SSS	JD 289	Unable to make positive ID on contact	Recon side scan sonar - Fix # 315 Suspicious contact, possibly Navy Tripod
4	78 -86	81.48 ⁷³	4.52 ⁸	3.38	L 41-14-43.09 λ 072-00-37.51	None			Contact height not 10% of depth
5	65 0	60.18 ⁵⁵	4.82	3.34	L 41-14-44.57 λ 072-01-23.92	None			
6	154	148.42	5.58	3.64	L 41-14-50.56 λ 071-57-17.04	None			
7	148	138.16	9.84	5.02	L 41-15-06.90 λ 071-57-02.24	None			
8	167	161.52	5.48	7.94	L 41-14-46.39 λ 071-57-01.52	None			Contact height not 10% of depth
9, 10, 26, 27	132	128.10	3.90	19.72	L 41-14-10.69 λ 071-56-52.76	Recon SSS	JD 289	Unable to make positive ID on contact	Recon side scan sonar - Fixes # 822-838 Suspicious contact, possibly Navy Tripod
11	95	90.74	4.26	3.48	L 41-14-34.40 λ 072-00-30.96	None			Contact height not 10% of depth
12	95	89.49	5.51	3.77	L 41-14-37.08 λ 072-00-29.70	None			
14	160	149.11	10.89	6.79	L 41-14-41.86 λ 071-57-12.17	None			
15	148	141.90	6.10	6.92	L 41-15-06.90 λ 071-57-02.24	None			
16	181	177.10	3.90	8.23	L 41-14-27.23 λ 071-57-06.50	None			
17	151	145.13	5.87	3.67	L 41-14-20.73 λ 072-00-16.28	None			
18	193	183.56	9.44	3.41	L 41-14-34.43 λ 071-57-21.25	None			
19	181	176.08	4.92	3.80	L 41-14-28.58 λ 071-57-05.23	None			Contact height not 10% of depth

DATE: 12/19/84

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Atlantic

OPR: B660

Hydrographic Sheet: R/H 20-16-84 (FE-264)

Locality: Block Island Sound

Time Period: October 3-15, 1984

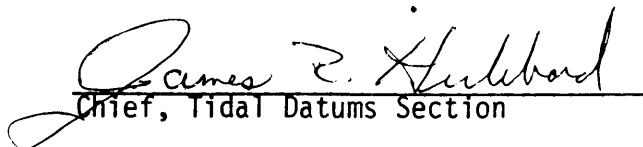
Tide Station Used: 846-1490 New London, CT

Plane of Reference (Mean ~~Lower~~ Low Water): 3.54 ft

Height of Mean High Water Above Plane of Reference: 2.6 ft

Remarks: Recommended Zoning:

- 1) East of Longitude $71^{\circ} 52.5'$ apply a -1hr 15 minute time correction and x 0.89 range ratio to all heights
- 2) West of longitude $71^{\circ} 52.5'$ to $71^{\circ} 55.0'$ apply -1hr time correction and x 0.89 range ratio to all heights
- 3) West longitude $71^{\circ} 55.0'$ to $71^{\circ} 57.5'$ apply a -45minute time correction and x 0.89 range ratio to all heights.
- 4) West longitude $71^{\circ} 57.5'$ to $72^{\circ} 00.0'$ apply a -30 minute time correction to all heights
- 5) West longitude $72^{\circ} 00.0'$ apply -15 minute time correction and x 0.89 range ratio to all heights.


Chief, Tidal Datums Section

GEOGRAPHIC NAMES

FE 264 SS

Name on Survey	A ON CHART NO. 13209, 13212, & 13214 B ON PREVIOUS SURVEY NO. C ON U.S. QUADRANGLE MAPS D FROM LOCAL INFORMATION E ON LOCAL MAPS F P.O. GUIDE OR MAP G RAND McNALLY ATLAS H U.S. LIGHT LIST K										
	BLOCK ISLAND SOUND (title) ✓										
FISHERS ISLAND ✓											2
NEW YORK (title) ✓											3
RHODE ISLAND (title) ✓											4
WATCH HILL POINT (title) ✓											5
											6
											7
											8
											9
											10
											11
											12
											13
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											24
											25

Approved:

Charles E. Harrington

Chief Geographer - N/C6245

10 JAN. 1985

LETTER TRANSMITTING DATA

TO:

CHIEF, DATA CONTROL SECTION
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NATIONAL OCEAN SERVICE, NOAA
ROCKVILLE, MD 20852

DATA AS LISTED BELOW WERE FORWARDED TO YOU
BY (Check):☐ ORDINARY MAIL☐ AIR MAIL☒ REGISTERED MAIL☐ EXPRESS☐ GBL (Give number) _____

DATE FORWARDED

April 25, 1985

NUMBER OF PACKAGES

Two (2)

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

FE-264 SS R/H-20-16-84 OPR-BLLO-RU/HE-84
New York - Rhode Island, Block Island Sound, Fishers Island to Watch Hill Point

Package #1 of 2 (Tube)

- ✓ 1 - Original Descriptive Report with one (1) Smooth Sheet included
- ✓ 1 - Final Field Sheet
- ✓ 2 - Preliminary Field Sheets

Package #2 of 2 (Box)

- ✓ 1 - Accordion Folder containing Echograms and Field Data Printouts
- ✓ 2 - Sounding Volumes
- ✓ 1 - Envelope containing Side-Scan Sonargrams
- ✓ 1 - Envelope containing Horizontal Control Data
- ✓ 1 - Envelope containing Data removed from the Descriptive Report.
- ✓ 1 - Envelope containing Smooth Tide Data
- ✓ 1 - Envelope containing Miscellaneous Printouts
- ✓ 1 - Cahier containing the Final Control Printout, Final Position Printout, and the Final Sounding Printout.

FROM: (Signature)

Maurice B. Hickson, Jr.
✓ LCDR David B. MacFarland, Jr.

RECEIVED THE ABOVE
(Name, Division, Date)

Dwayne S. Clark
May 10, 1985
N/CG243

Return receipted copy to:

ATLANTIC MARINE CENTER
HYDROGRAPHIC SURVEYS BRANCH, N/CG243
NOAA, NATIONAL OCEAN SERVICE
439 W. YORK STREET
NORFOLK, VA 23510

HYDROGRAPHIC SURVEY STATISTICS
REGISTRY NO.: FE-264 SS

Number of positions	<u>654</u>	
Number of soundings	<u>2</u>	
Number of control stations	<u>9</u>	
	<u>TIME-HOURS</u>	<u>DATE COMPLETED</u>
Preprocessing Examination	<u> </u>	<u> </u>
Verification of Field Data	<u> </u>	<u> </u>
Quality Control Checks	<u> </u>	
Evaluation and Analysis	<u>86</u>	<u>April 17, 1985</u>
Final Inspection	<u>5</u>	<u>April 11, 1985</u>
TOTAL TIME	<u>91</u>	
Marine Center Approval		<u>April 17, 1985</u>

Transmittal letter of survey and survey records will be included in the Descriptive Report to identify the records accompanying the survey.

ATLANTIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO.: FE-264 SS

FIELD NO.: R/H-20-16-84

New York - Rhode Island, Block Island Sound, Fishers Island to Watch Hill Point

SURVEYED: October 3 through October 15, 1984

SCALE: 1:20,000

PROJECT NO.: OPR-B660-RU/HE-84

SOUNDINGS: DSF-6000N Fathometer
Klein Side-Scan Sonar

CONTROL: Del Norte 520
(Range-Range)

Chief of Party.....R. K. Norris

Surveyed by.....N. G. Millett
.....E. M. Clark
.....T. G. Callahan

1. INTRODUCTION

a. This is entirely a side-scan sonar survey. A Raytheon DSF-6000N fathometer was operated concurrently with the side-scan sonar but the soundings are of reconnaissance value only as necessary sounding correctors were not determined. No hydrography beyond reconnaissance hydrography was required. No wire drag was accomplished during this survey.

b. One smooth plot of contacts 4 and 5, was generated and is attached to this report. A chart section depicting the area insonified was generated during evaluation and is included with this report. The final field sheet adequately displays the lines run and the contacts found (this sheet will be filed with the hydrographic field records).

c. Corrections and notes made by the evaluator to the Descriptive Report are denoted in red ink.

2. CONTROL AND SHORELINE

a. The source of control is adequately discussed in sections F., G., and Appendix D. of the Descriptive Report.

b. Shoreline is adequately discussed in section L. of the Descriptive Report. Brown shoreline from chart 13212 was drawn on the smooth plot attached to this report. The shoreline is intended for orientation only.

3. HYDROGRAPHY

The soundings collected on this survey are of reconnaissance value only. Additional sounding lines and side-scan sonar lines on contacts

4. and 5. would have been desirable to gain additional information about the size, shape, extent, and shoalest soundings on these contacts. Also see section 4.g. of this report.

4. CONDITION OF SURVEY

The final field sheet, survey records, and reports are adequate and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. In general the Descriptive Report is excellent in its entirety.

b. Prior surveys common to the survey area which were identified in the Project Instructions were used for comparisons by the hydrographer. The Project Instructions were deficient in that they did not list or require comparisons with the following surveys:

H-4042WD (1918-19)
H-4043WD (1918)
H-4008aWD (1917-18)

c. No mention or reference was made by the hydrographer in the Descriptive Report pertaining to the recovery of geodetic control stations as required by section 3.2.1. of the Project Instructions.

d. LITTLE GULL ISLAND LIGHTHOUSE, 1874 is and has been considered a lost station by NGS for a number of years and therefore cannot be verified as a valid control station. Almost all of the daily calibrations used this station (signal list station number 10). Apparently by some good fortune, the daily calibrations agreed well with the baseline calibrations which indicates that the object used must be very close to the original station. In a conventional sounding hydrographic survey the data would be subject to being considered as only supplemental, however since this is totally a side-scan sonar survey, this discrepancy is not considered significant enough to downgrade the data collected. *5/1/85 - The evaluator has been informed by NGS that LITTLE GULL ISLAND LIGHTHOUSE, 1874 is a valid control station and has been recovered as described. (per telecon with Maurice Hickson)*

e. The signal list contained several minor (other than paragraph d. above) discrepancies which were corrected during evaluation.

f. Rock/Boulder fields in depths greater than 150 feet were not considered as contacts. Since these bottom features pose no hazard to navigation it would not have been of any value to have designated these as contacts.

g. No least depths on contacts were determined by conventional methods as required by section 7.12.3.1. of the Project Instructions because the hydrographer determined that no critical features existed. Contacts 4. and 5. were determined critical enough by the evaluator to warrant charting but in conversations with the hydrographer further investigations of these features, particularly with divers, was not feasible due to very strong and dangerous currents in this area.

i. No section "Reference to Reports" was included in the Descriptive Report, therefore it cannot be determined if the hydrographer complied with the Coast Pilot section (8.5.) of the Project Instructions. Review of the 19th Edition (January 1984) of the Coast Pilot 2 during evaluation indicated there is nothing revealed by the present survey which would affect the Coast Pilot.

j. Smooth tides were not really necessary for the survey but were generated and are included in the survey records.

5. JUNCTIONS

Adequate junctions exist to the east with survey R/H-20-17-84 (FE-266) and to the west with survey R/H-20-15-84 (FE-262WD). No contemporary surveys exist or are presently planned to the north and south of the present survey. Contact number 15 (PA) on the junctional survey R/H-20-15-83 (FE-262WD) was noted in a turn after the line broke. This contact falls in the area covered by the present survey and was not seen on the adjacent lines within the common area. It is felt this contact is possibly a minor seabed texture change or a small and insignificant contact such as a small rock in approximately 140 feet of water.

6. COMPARISON WITH PRIOR SURVEYS

a. Hydrographic Surveys

H-8926 (1966-68) 1:10,000

H-8709 (1961-62) 1:20,000

H-6443 (1939) 1:40,000

These three prior surveys are common to the entire present survey. Meaningful comparisons between prior hydrography and the present survey cannot be made since this is entirely a side-scan sonar survey. Adequate comparisons between the reconnaissance hydrography and prior soundings have been made by the hydrographer in section K. of the Descriptive Report. However observations and recommendations by the evaluator on the recorded sonar contacts based upon prior hydrography are:

1) Contacts 1,2,3,6,7,8,13,14,15,16,18,19,21,22,23, and 24 are the more prominent boulders in a boulder field in which prior depths range from 146 to 195 feet. None of these contacts constitute a hazard to navigation and do not merit charting. The affected charts should note "boulders" or "boulder field" in the vicinity of Latitude 41°14'45", Longitude 71°57'15".

2) Contacts 9,10,26, and 27 is an obstruction rising approximately four (4) feet above the bottom in prior depths of 132 feet. This submerged obstruction does not constitute a hazard to navigation and should not be charted.

3) Contacts 11,12,17, and 20 are obstructions rising approximately four (4) to six (6) feet above the bottom in prior depths of 95

to 151 feet. These submerged obstructions do not constitute a hazard to navigation and should not be charted.

4) Contacts 25 and 28 are obstructions rising approximately nine (9) and ten (10) feet respectively above the bottom in prior depths of approximately 140 feet (contact 25) and 183 feet (contact 28). These submerged obstructions do not constitute a hazard to navigation and should not be charted.

5) Contact 4 is at the northern edge of the proposed corridor in Latitude $41^{\circ}14'43.09''$, Longitude $72^{\circ}00'37.51''$ and rises above the bottom approximately eight (8) feet in prior depths of 78 to 86 feet. This configuration of the bottom shows a 67-foot sounding on the fathogram which reduces to approximately 73 feet (draft=7.0 feet, tide = -1.2 feet, settlement and squat = 0.4 feet, and velocity and instrument error not computed). Therefore it is recommended that a "73 rep" be charted at the position determined by this survey since the project depth for clearance is 70 feet. It should also be noted that this feature is in a bottom area identified as rocky on the prior survey H-8926.

*added 73 rep
2/6/89
(X)*

6) Contact 5 is at the northern edge of the proposed corridor in Latitude $41^{\circ}14'44.57''$, Longitude $72^{\circ}01'23.92''$ and rises above the bottom approximately five (5) feet in prior depths of 60 feet which identified the bottom as hard and rocky. Therefore it is recommended that a "55 rep" be charted at the position determined by this survey since the project depth for clearance is 70 feet.

*added 55 rep
2/6/89
(X)*

b. Wire Drag

H-4043WD (1918) 1:20,000
H-4042WD(1918-19) 1:50,000
H-4008aWD (1917-18) 1:20,000

Prior survey H-4043WD is common to approximately 60% of the present survey in the western portion of the present survey. Prior effective depths within the common area range from 37 to 102 feet. Present survey contacts 1, 2, 3, 6, 7, 8, 9, 10, 13, 14, 15, 16, 18, 19, 21, 22, 23, 24, 26, and 27 are common to the prior survey. Contacts 1, 2, 3, 6, 7, 13, 15, and 21 are in an area cleared by an effective depth of 100 feet. Contacts 8, 9, 10, 14, 16, 18, 19, 22, 23, 24, 26, and 27 are in an area cleared by an effective depth of 102 feet. All of these contacts have computed least depths greater than the prior survey clearance depths, therefore no conflicts exists. The charted 42-foot sounding in Latitude $41^{\circ}14'50''$, Longitude $72^{\circ}00'21''$ originates with a 42-foot grounding on this prior survey. The existence of this depth is doubtful, especially as an isolated feature based upon an examination of the sonargrams. No other prior groundings or hangs are common to the present survey.

Prior survey H-4042WD is common to approximately 45% of the present survey in the eastern portion of the present survey. Prior effective depths within the common area range from 85 to 100 feet. Only one contact, contact 25, is common to the prior survey and is in an area

cleared by an effective depth of 100 feet. Contact 25 has a computed least depth of 113 feet, therefore no conflict exists. No prior groundings or hangs are common to the present survey.

Prior survey H-4008a is common to a very small area of the present survey in the extreme western portion of the present survey. Prior effective depths within the common area range from 18 to 100 feet. Only one (1) contact, contact 28, is common to the prior survey and is in an area cleared by an effective depth of 100 feet. Contact 28 has a computed least depth of 173 feet, therefore no conflict exists. No prior groundings or hangs are common to the present survey.

7. COMPARISON WITH CHARTS

13209, 16th Edition, June 19, 1982
13212, 29th Edition, January 1, 1983
13214, 21st Edition, August 25, 1979

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys and soundings from sources not readily ascertainable. The previously discussed prior surveys require no further consideration. The hydrographer makes adequate chart comparisons in section L. of the Descriptive Report. Additional charting observations and recommendations by the evaluator are:

1) A charted 36-foot sounding in Latitude 41°14'41", Longitude 71°59'35" on chart 13212 is in error. This sounding originates with prior survey H-8926 (1966-68) and is a 136-foot sounding. It is recommended that the chart (13212) be corrected. ** already changed*

2) A charted 56-foot sounding in Latitude 41°14'59", Longitude 71°57'06" is in error. This sounding originates with prior survey H-8709 (1961-62) and is a 156-foot sounding. It is recommended that the chart (13214) be corrected. ** X*

Since this is entirely a side-scan sonar survey of only 100% coverage, it is not considered adequate to supersede charted data.

b. Aids to Navigation

Aids to navigation common to the surveyed area are adequately discussed in section L. of the Descriptive Report.

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions except as noted in this report.

9. ADDITIONAL FIELD WORK

This is an adequate side-scan sonar survey which serves its intended purpose. No additional field work is recommended; however, at an

appropriate opportunity the 42-foot sounding charted in Latitude 41°14'50"N, Longitude 72°00'21"W should be investigated (See section 6.b. of this report).

Maurice B. Hickson, III

Maurice B. Hickson III

Cartographer

Evaluation and Analysis

INSPECTION REPORT
FE-264 SS

The data that make up this Side Scan Sonar survey have been inspected to gain insight into its overall completeness regarding survey coverage, presentation of survey results, and the verification or disproval of charted data. This survey, except as noted in the Evaluation Report, is considered complete and adequate to meet National Ocean Service standards. Processing is considered complete. The survey records comply with NOS requirements except as noted in the Evaluation Report.

Inspection



R. D. Sanocki
Chief, Hydrographic Surveys
Processing Section
Hydrographic Surveys Branch



David B. MacFarland, Jr., LCDR, NOAA
Chief, Hydrographic Surveys Branch

Approved April 17, 1985



Wesley W. Hull, RADM, NOAA
Director, Atlantic Marine Center

72° 02'

72° 01'

72° 00'

FISHERS ISLAND

TOWER, 1972

41° 15'

41° 15'

55
Contact # 573
Contact # 4

41° 14'

41° 14'

FE-264 SS
OCT, 1984
SCALE 1:20,000
NORTH AMERICAN DATUM OF 1927
POLYCONIC PROJECTION
SOUNDINGS IN FEET AT MEAN LOW WATER
CONTACTS # 4 & 5

41° 13'

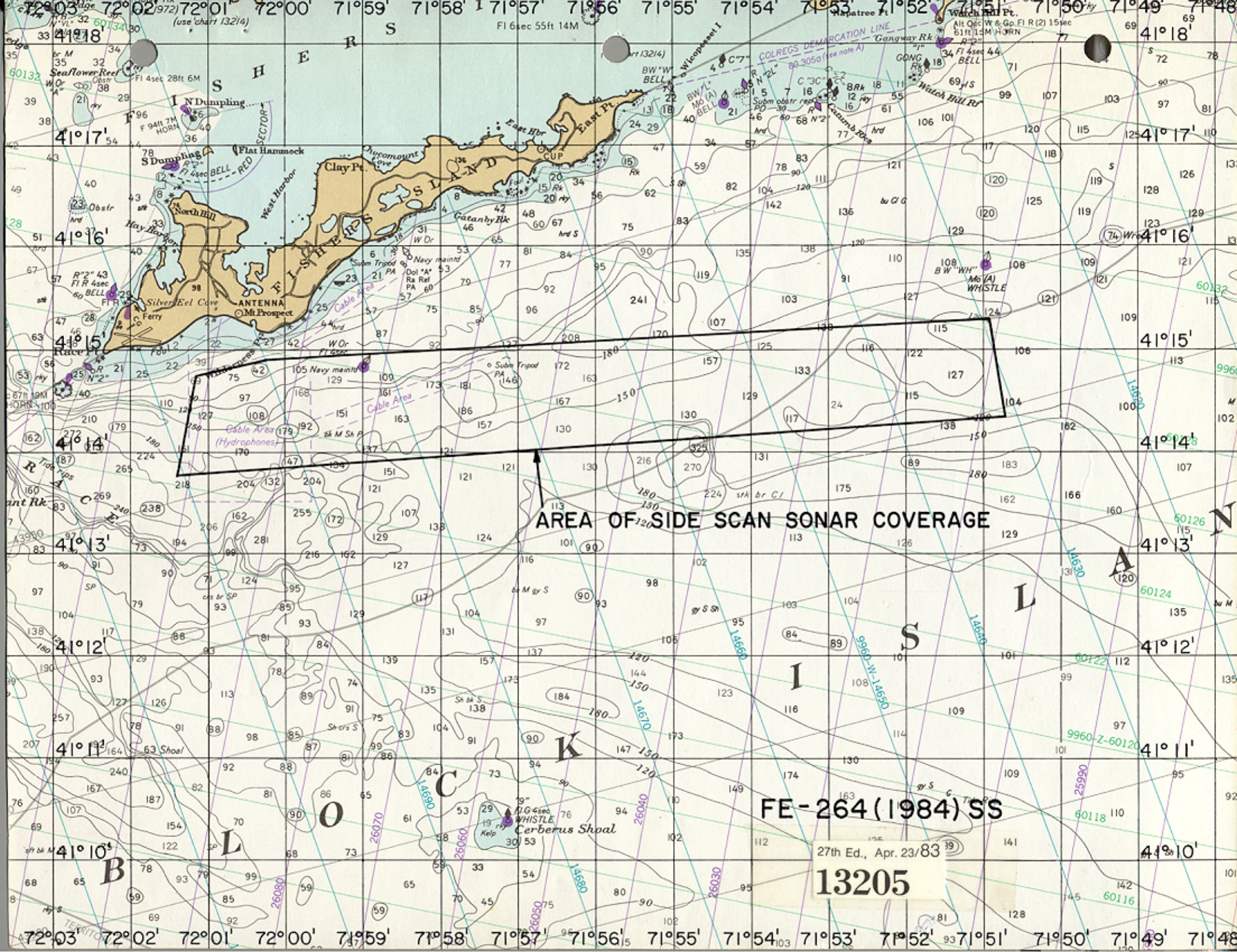
41° 13'

Shoreline in brown from Chart 13212, 29th Edition, January 1, 1983 for orientation only

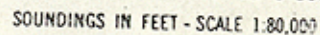
72° 02'

72° 01'

72° 00'



SIDE SCAN 100%



Hydrographic Index No. 63 L



FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-264SS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED

App'd to STD 5-6-85 per